reaction plate contains 80 spatial addresses each (8 X 10) and a row contains 16 reaction plates. The entire array consists of 8 rows of these reaction plates which are recycled 16 at a time to complete production of the array. The initial cycle's first operator is spatial delivery of 200 µl (1 eq., 50 µmoles) of the "A" building block solution according to the spread sheet entitled "AN 1001 SPATIAL LAYOUT, "A" BUILDING BLOCKS" starting at P1 and ending at P16. The second operator is spatial delivery of 200 µl (1 eq., 50 µmoles) of the "B" Building Blocks to the same reaction plates according to the spread sheet entitled "AN 1001 SPATIAL LAYOUT, "B" BUILDING BLOCKS." The third operator is addition to the same reaction plates of 50 µL of a I M (1 eq., 50 µmoles) solution of triethylamine in THF to all the spatial addresses that "A" and "B" building Blocks were added. The fourth operator is placement of the reaction blocks on an agitator at 60 degrees centigrade for 1.5 hrs. The fifth operator is spatial addition of 100 µl (1 eq., 50 µmoles) of the "C" building, block solutions according to the spread sheet entitled "AN 1001 SPATIAL LAYOUT, "C" BUILDING BLOCKS." The sixth operator is addition of 200 µL of THF to all the spatial addresses in the row or cycle. The seventh operator allows the reaction plates to stand at 25 degrees centigrade for 16 hrs. enabling evaporation of THF and completion of the synthesis of the molecular constructs. The following operators are then applied to distribute and reformat the molecular constructs for delivery and quality control. Heat the reaction plates to 60 degrees centigrade for 10 minutes and add 400 µl of dimethylsulfoxide (DMSO) to dissolve the molecular constructs (operator 8). Remove the solution from the reaction plates and place in a plastic microtiter plates in a spatial manner (operator 9). Spatially wash the reaction plates (each address)

with 4 times 325 µL of DMSO and place in the same microtiter plates (operator 10). This affords 29.4 mM solutions of the molecular constructs in DMSO ready for further spacial distribution. Remove a 10 µL aliquot following a unique address pattern layout from each microtiter plate for quality control (operator 11). Spatially reformat these aliquots, dilute with 300 µL of acetonitrile and subject these samples to analysis by High Performance Liquid Chromatography and Mass Spectrometry for quality control of the molecular constructs in the each microtiter plate (operator 12). The above cycles and operators are repeated 7 more times to finish production and quality controlled validation of the array, AN 1001.